

**Amendments to the Drawings:**

The attached replacement sheet (sheet 2/6) of drawings includes a change to Fig. 1c to add the label 123, which was inadvertently omitted in the original figure. The change is supported by the specification, for example, in the Detailed Description of the Figures on page 29, lines 16-18, in the description of Fig. 1c, which refers to the wire as 123. No changes have been made on the other sheets of the drawings, and accordingly, only a replacement sheet for sheet 2/6 has been included.

**REMARKS**

Claims 1 to 3 and 5 to 27 are pending. Claim 4 is canceled. Withdrawn claims 28 to 33 are currently canceled. Claims 1 to 3 and 5 to 27 are currently amended. New claim 34 has been added.

Reconsideration of the application is requested.

Claims 1 to 3 and 5 to 27 have been amended to remove part numbers from the claims.

Claims 1 and 2 have been amended to remove the limitation that the fibrous web layer has an initial basis weight of between 10 and 400 g/m<sup>2</sup>. These amendments are supported, for example, by original claims 1 and 2.

The amendment to claim 1 changing the term "initial hook density" to "initial density of male fastening elements" is supported by the specification, for example, page 16, lines 19 to 23 and by original claim 9.

The amendment to claim 2 referring to portions of the ribs having "a length in the direction of the ribs" is supported by the specification, for example, page 25, lines 22 to 26.

The amendment to claim 18 is supported by the specification, for example, page 20, lines 4 and 5.

Other amendments to the claims have been made for clarity or consistency. It is submitted that these amendments are supported, for example, by the original claims.

New claim 34 is supported, for example, by original claim 4.

Amendments have been made to the specification to make the Summary of the Invention section on pages 3 to 5 consistent with the claims and to correct inadvertent editorial or typographical errors on pages 10, 23, 25, 34, and 37.

**Claim Objections**

Claims 1 to 27 were objected to because the units for basis weight were provided as  $\text{g m}^2$ , and the units for density were provided as  $\text{cm}^2$  in the claims.

Claims 1, 2, and 20 have been amended to change the units of basis weight to  $\text{g/m}^2$  as helpfully suggested by the examiner.

Claims 9, 24, and 25 have been amended to change the units of density to a number per  $\text{cm}^2$  as helpfully suggested by the examiner.

**§ 112 Rejections**

Claims 16, 17, 19 and 20 to 27 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Office Action states that the terms CD and MD in claim 16 lack antecedent basis.

In response, claim 16 is currently amended to replace the term CD with "a cross-direction" and the term MD with "a machine direction". Claim 17 is currently amended to refer to "the machine direction" and "the cross-direction". Claim 26 is currently amended to replace the term MD with "machine direction", and claim 27 is currently amended to replace the term CD with "cross-direction". The amendment renders definite claims 16, 17, 26, and 27 and claims 19 to 25, which depend directly or indirectly from claim 16.

In summary, Applicants submit that the rejection of claims 16, 17, and 19 to 27 under 35 USC § 112, second paragraph, has been overcome, and that the rejection should be withdrawn.

### **§ 103 Rejections**

Claims 1 and 3-26 are rejected under 35 USC § 103(a) as being unpatentable over Buzzell et al. (US Pat. No. 6,582,642) when taken with Kennedy et al. (US Pat. No. 5,260,015) and further in view of any of Wood et al. (US Pat. No. 6,668,435) or Itou et al. (US Pat. No. 6,955,847) or Kronzer (US Pat. No. 5,616,155).

The Office Action States:

Buzzell et al. does not teach all the specific physical properties or dimensions of the laminate or nonwoven web. However, each of Wood et al. (Abstract; col. 3, lines 25-62), Itou et al. (Abstract; col. 1, lines 13-65; col. 4, lines 61-col. 5, line 5) and Kronzer (col. 2, line 51-col. 3, line 6) individually disclose fibrous webs within the claimed range and teach optimizing the basis weight of fibrous webs in hook and loop fastener system as desired for the intended application. Furthermore, a person of ordinary skill in the art would have found it obvious to have optimized product properties and dimensions, using routine experimentation as suggested by Buzzell et al. and in view of the combination as a whole in order to form a desired commercially viable product having desired physical traits.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a fibrous web as claimed while practicing the method of Buzzell for the purpose as suggested by any of Wood et al., Itou et al, and Kronzer for providing a loop portion of the fastener suitable for its intended application (e.g., heavy or light duty) and to reduce "fluffing" by repeated fastening and peeling operations while considering production costs (Itou et al; col. 4, line 61-col. 5, line 5) to achieve a stretched product of a desired basis weight suitable for its intended application.

It is submitted that the rejection is unwarranted and should be withdrawn.

Applicants claim in amended independent claim 1 a method of manufacturing a stretched mechanical fastening web laminate. The stretched mechanical web laminate comprises a thermoplastic web layer having two major surfaces, one of the major surfaces bearing a multitude of male fastening elements suitable for engagement with a corresponding female fastening material, and on its other major surface a fibrous web layer. The method comprises steps (i), (ii), and (iii), wherein step (iii) comprises stretching the precursor web laminate monoaxially or biaxially thereby decreasing the basis weight of the fibrous web layer and the thickness of the thermoplastic web layer from their respective initial values to provide a stretched mechanical

fastening laminate having a basis weight of less than  $100 \text{ g/m}^2$ . As stated in the Office Action, Buzzell et al. does not teach all the limitations of claim 1. For example, Buzzell et al., taken with Kennedy et al., does not teach a laminate having a basis weight of less than  $100 \text{ g/m}^2$ .

None of Wood et al., Itou et al., or Kronzer overcomes the deficiencies of Buzzell et al., taken with Kennedy et al. While Wood et al., Itou et al., and Kronzer each disclose loop fabrics having a basis weight (Wood et al.: 2 to  $100 \text{ mg/cm}^2$ ; Itou et al.: 20 to  $100 \text{ g/m}^2$ ; and Kronzer: 20 to  $120 \text{ g/m}^2$ ), none of these references in combination with Buzzell et al. and Kennedy et al. teaches a laminate comprising a thermoplastic web layer and a fibrous web layer having a basis weight of less than  $100 \text{ g/m}^2$ . Therefore, a proper *prima facie* case of obvious has not been made.

Routine experimentation to optimize the methods of Buzzell et al., taken with Kennedy et al., alone or in combination with any of Wood et al., Itou et al., or Kronzer would not have led one of ordinary skill in the art to the invention claimed in amended claim 1. In contrast to Applicants' disclosure, which teaches methods of manufacturing stretched mechanical fastening web laminates with low overall thickness and basis weight, Buzzell et al. teaches away from significantly lowering the overall basis weight of a laminate of a loop material and a thermoplastic resin by first precompressing the loop material (see col. 14, line 60 to col. 15, line 27 of U.S. Pat. No. 6,582,642), thereby mitigating the lowering of the basis weight of the loop material portion of the laminate. Microcreping is given as a process that may be used to precompress the loop material. No teaching is available in Buzzell et al., taken with Kennedy et al., on how to stretch a laminate made with a loop material that is not precompressed.

One of ordinary skill in the art would not have been motivated by Buzzell et al., taken with Kennedy et al., alone or in combination with any of Wood et al., Itou et al., or Kronzer to prepare a laminate having a basis weight of less than  $100 \text{ g/m}^2$  as claimed in amended claim 1. In addition, one of ordinary skill in the art would not have had a reasonable expectation that a laminate having a basis weight of less than  $100 \text{ g/m}^2$  could be made successfully using the precompressing, laminating, and stretching process of Buzzell et al. Moreover, the Office Action does not provide any other evidence that one of ordinary skill in the art would be properly motivated to modify the cited art to obtain the invention claimed in amended claim 1.

The rejection of claim 1 under 35 USC § 103(a) as being unpatentable over Buzzell et al. when taken with Kennedy et al. and further in view of any of Wood et al. or Itou et al. or Kronzer has been overcome and should be withdrawn.

Claims 3 and 5 to 26 each depend directly or indirectly from claim 1. Claim 1 is patentable at least for the reasons given above. Thus, claims 3 and 5 to 26 are likewise patentable.

Claim 27 is rejected under 35 USC § 103(a) as being unpatentable over Buzzell et al. (US Pat. No. 6,582,642) when taken with Kennedy et al. (US Pat. No. 5,260,015) and further in view of any of Wood et al. (US Pat. No. 6,668,435) or Itou et al. (US Pat. No. 6,955,847) or Kronzer (US Pat. No. 5,616,155), as applied to claims 1 and 3-26 above, and further in view of de Navas Albareda (US Pat. No. 4,056,593).

Claim 27 is indirectly dependent from claim 1. The rejection of claim 1 under 35 USC § 103(a) as being unpatentable over Buzzell et al. when taken with Kennedy et al. and further in view of any of Wood et al. or Itou et al. or Kronzer has been overcome as described above. De Navas Albareda (US Patent No. 4,056,593) does not correct the deficiencies of Buzzell et al. when taken with Kennedy et al. and further in view of any of Wood et al. or Itou et al. or Kronzer, for example, with respect to providing a laminate with a basis weight of less than 100 g/m<sup>2</sup>. The rejection of claim 27 is therefore also overcome and should be withdrawn.

Claim 2 is rejected under 35 USC § 103(a) as being unpatentable over Buzzell et al. (US Pat. No. 6,582,642) when taken with Kennedy et al. (US Pat. No. 5,260,015) in view of any of Wood et al. (US Pat. No. 6,668,435) or Itou et al. (US Pat. No. 6,955,847) or Kronzer (US Pat. No. 5,616,155), and in view of de Navas Albareda (US Pat. No. 4,056,593).

It is submitted that the rejection is unwarranted and should be withdrawn.

Applicants claim in amended independent claim 2 a method of manufacturing a stretched mechanical fastening web laminate. The stretched mechanical web laminate comprises a thermoplastic web layer having two major surfaces, one of the major surfaces bearing a multitude of male fastening elements suitable for engagement with a corresponding female fastening material, and on its other major surface a fibrous web layer. The method comprises steps (i), (ii),

(iii), and (iv) wherein step (iv) comprises stretching the precursor web laminate monoaxially or biaxially thereby decreasing the basis weight of the fibrous web layer and the thickness of the thermoplastic web layer from their respective initial values to provide a stretched mechanical fastening laminate having a basis weight of less than  $100 \text{ g/m}^2$ . As stated in the Office Action, Buzzzell et al. does not teach all the limitations of claim 2. For example, Buzzzell et al., taken with Kennedy et al., does not teach a laminate having a basis weight of less than  $100 \text{ g/m}^2$ .

None of Wood et al., Itou et al., or Kronzer overcomes the deficiencies of Buzzzell et al., taken with Kennedy et al. While Wood et al., Itou et al., and Kronzer each disclose loop fabrics having a basis weight (Wood et al.: 2 to  $100 \text{ mg/cm}^2$ ; Itou et al.: 20 to  $100 \text{ g/m}^2$ ; and Kronzer: 20 to  $120 \text{ g/m}^2$ ), none of these references in combination with Buzzzell et al. and Kennedy et al. teaches a laminate comprising a thermoplastic web layer and a fibrous web layer having a basis weight of less than  $100 \text{ g/m}^2$ . Further, de Navas Albareda does not teach a laminate having a basis weight of less than  $100 \text{ g/m}^2$ . Therefore, a proper *prima facie* case of obvious has not been made.

As described above, Buzzzell et al. teaches away from significantly lowering the overall basis weight of a laminate by first precompressing the loop material, thereby mitigating the lowering of the basis weight of the loop material portion of the laminate. One of ordinary skill in the art would not have been motivated by Buzzzell et al., taken with Kennedy et al., alone or in combination with any of Wood et al., Itou et al., Kronzer, or de Navas Albareda to prepare a laminate having a basis weight of less than  $100 \text{ g/m}^2$  as claimed in amended claim 2 and would not have had a reasonable expectation of success using the precompressing, laminating, and stretching process of Buzzzell et al. Moreover, the Office Action does not provide any other evidence that one of ordinary skill in the art would be properly motivated to modify the cited art to obtain the invention claimed in amended claim 2.

The rejection of claim 2 under 35 USC § 103(a) as being unpatentable over Buzzzell et al. when taken with Kennedy et al. and further in view of any of Wood et al. or Itou et al. or Kronzer and in view of de Navas Albareda has been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Examination and reconsideration of the application, as amended, is requested.



Respectfully submitted,

11-8-2007  
Date

By: Kathleen B. Gross  
Kathleen B. Gross, Reg. No.: 56,676  
Telephone No.: 651-737-4757

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833